

REMARKS

I. Introduction

In response to the Office Action dated December 27, 2006, claims 2-4, 16-18 and 30-32 have been canceled, and claims 1, 5-7, 15, 19-21, 29 and 33-35 have been amended. Claims 1, 5-15, 19-29 and 33-42 remain in the application. Re-examination and re-consideration of the application, as amended, is requested.

II. Non-Art Rejections

In paragraphs (16)-(17) of the Office Action, claims 4, 5, 18, 19, 32, and 33 were rejected under 35 U.S.C. §112, second paragraph, as being indefinite because for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention.

Applicants' attorney has canceled claims 4, 18 and 32 and amended claims 5, 19 and 33 to overcome this rejection.

III. Statutory Subject Matter Rejection

In paragraphs (18)-(19) of the Office Action, claims 15-28 were rejected under 35 U.S.C. §101 as being directed to non-statutory subject matter. In paragraph (20) of the Office Action, claims 29-42 were rejected under 35 U.S.C. §101 because the claimed invention is directed to non-statutory subject matter. In paragraph (21) of the Office Action, claims 29-42 were rejected under 35 U.S.C. §101 because the claimed invention is directed to non-statutory subject matter.

Applicants' attorney has amended the claims as indicated above to overcome these rejections.

However, should issues still remain in this regard, Applicants' attorney requests that the Examiner indicate how the rejection can be overcome, in accordance with the directives of the Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility (Interim Guidelines) II. Specifically, should it be necessary, the Applicants' attorney requests that the Examiner identify features of the invention that would render the claimed subject matter statutory if recited in the claim. See Interim Guidelines IV.B.

IV. Prior Art Rejections

In paragraphs (1)-(2) of the Office Action, claims 1-42 were rejected under 35 U.S.C. §102(e) as being anticipated by Voas et al., U.S. Patent No. 6,862,696 (Voas). In paragraphs (12)-(13) of the

Office Action, claims 12, 13, and 14 were rejected under 35 U.S.C. §103(a) as being unpatentable over Voas in view of Woodbury et al, "Performance Modeling and Measurement of Real-Time Multiprocessors with Time-Shared Buses" (Woodley).

Applicants' attorney respectfully traverses these rejections.

Independent claims 1, 15 and 29 are patentable over the references because they recite limitations not taught by the references. Specifically, Applicants' claims have been amended to recite the limitations directed to a mechanism to "measure the mean time between the program failures at the customer's computer, by maintaining a running count of the program failures and computing the mean time between program failures by dividing a time elapsed between a first and last error report received by the vendor by an increase in the running count during the time elapsed." The cited references do not teach nor suggest these various elements of Applicants' independent claims.

Instead, the cited portions of Voas that allegedly teach these limitations merely describe the following:

Voas: Col. 9, line 64 - col. 10, line 22

In step 307 data from each user is sent to the SCL. Such data transfer may be triggered by an abnormal termination of a process (e.g., a fatal error) or on a periodic basis (e.g., send data file after X number of fatal error occurs or Y transactions/use cases or Z continuous hours of operation, etc.). To protect the data, it should be transferred to the SCL over an SSL (Secure Sockets Layer)-encrypted connection. SSL, an industry standard developed by Netscape, provides authentication of the SCL and confidentiality and integrity of the data sent to the SCL. This method ensures that no other party can interpret the data sent from the user.

In step 308 the SCL collects, collates, and analyzes all data received from users of a particular software application version release. The SCL may produce two types of output, both of which may be sent to vendors: (1) a software reliability certificate, and (2) analysis of failure data for a given application. A software reliability certificate can be created when enough executions are run. What constitutes enough executions is a function of basic statistics and the level of certification being sought. The SCL can use confidence intervals to estimate reliability based on the number of observations received. Additionally, when enough data is collected from the field for a given configuration, the SCL can issue a software reliability certificate specific to the application's environment. For example, an SCL certificate might read as:

Given a Pentium-class computer, with 128 MB of ram, under light to moderate load, running Windows 2000' (service pack 1), software vendor SV's web server 'WS' v2.0a was observed to have MTTF=1000 hrs.

Given the number of different configurations from which data is collected, the certificates should to be created at an appropriate granularity level useful to both vendors and consumers. In a preferred embodiment, a hierarchical subsumption

structure for certificates is used so that the highest level of granularity provides the most conservative estimate of reliability over all the configurations it subsumes.

Voas: Col. 13, lines 17-39

In one embodiment, reliability can be represented by computing the Mean Time To Failure (MTTF) for the software. For N instrumented versions of a software application, where each version i operates for time  $t_{\text{sub},i}$  before encountering a failure, the MTTF for the software is given by equation (1) below.

$$MTTF = \frac{\sum_{i=1}^N t_i}{N} \quad (1)$$

Accordingly, MTTF estimates for a software application can be empirically generated. The greater the number of deployed (instrumented) applications, the higher the confidence in the estimate will be. Using the system and method of the present invention, the SCL can gather enough statistical data to establish confidence intervals, e.g., (90, 95, 99)-percent confidence intervals that the true MTTF of the software falls within a given interval range. Using the information about the environment in which the software runs together with its operational time before an observed failure, the SCL can create certificates of reliability. Employing confidence intervals, the SCL can modify the example certificate described earlier as follows:

Given a Pentium III machine, with 128 MB of ram, under light to moderate load, running Windows 2000.RTM.(service pack 1), software vendor SV's web server 'WS' v2.0a true MTTF is in the range of [1500,1600] hours with 95 percent confidence.

Consequently, Voas describes a mean time to failure as being a summation of the time before encountering a failure for each version, which is divided by the number of versions.

In Applicants' invention, on the other hand, the mean time between the program failures is measured by maintaining a running count of the program failures and computing the mean time between program failures by dividing a time elapsed between a first and last error report received by the vendor by an increase in the running count during the time elapsed.

This is a different calculation than that performed by Voas.

Moreover, Woodbury fails to overcome the deficiencies in Voas, because it too fails to describe the same calculation as performed in Applicants' claims.

Thus, Applicants submit that independent claims 1, 15, and 29 are allowable over Voas and Woodbury. Further, dependent claims 2-14, 16-28, and 30-42 are submitted to be allowable over Voas and Woodbury in the same manner, because they are dependent on independent claims 1, 15, and 29, respectively, and thus contain all the limitations of the independent claims. In addition, dependent claims 2-14, 16-28, and 30-42 recite additional novel elements not shown by Voas and Woodbury.

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V. Conclusion

In view of the above, it is submitted that this application is now in good order for allowance and such allowance is respectfully solicited. Should the Examiner believe minor matters still remain that can be resolved in a telephone interview, the Examiner is urged to call Applicants' undersigned attorney.

Respectfully submitted,

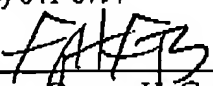
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